

## BIBLIOGRAPHY

C. FITZHUGH TALMAN, in charge of Library

## RECENT ADDITIONS

The following have been selected from among the titles of books recently received as representing those most likely to be useful to Weather Bureau officials in their meteorological work and studies:

**Abbot, C. G.**

Weather dominated by solar changes. Washington. 1931. 18 p. figs. 24½ cm. (Smith. misc. coll., v. 85, no. 1.)

**Curry, Manfred.**

Wind and water. London. [1930.] 28, 14 p. plates. 30½ cm.

**Elm, Ienar Ewald.**

Weather and why; an aviator's presentation of aeronautical meteorology . . . Philadelphia. [c1929.] 109 p. front. illus. plates. diagrs. 21½ cm.

**Gillette, Halbert P.**

Electrodynamic theory of cyclones and anticyclones. p. 22–23. 29½ cm. (Water works and sewerage. v. 78, Jan., 1931.)

**Jaumotte, J.**

Un nouveau météorographe pour ballon-sonde. Bruxelles. 1930. 44 p. figs. 29½ cm. (Inst. roy. mét. de Belgique. Mém. v. 3.)

**Köppen, W., & Geiger, R., comp.**

Handbuch der Klimatologie. Berlin. 1930. Bd. 1. Teil A, D, E. Bd. 2. Teil G.

**Kopfmüller, A.**

Verbessertes Graukeilphotometer. [2 p.] 24 cm. (Ztschr. für wissensch. Bäderkunde. 1930. H. 11.)

**Kuiper, P. Feenstra.**

De groene straal. Helder. n. d. 71 p. figs. plate. 24½ cm.

**Lucio, R.**

La legitimidad de las inferencias dos probables periodos del tiempo. Teoria de los ciclones tropicales. Mexico. 1930. 344 p. 17 cm.

**Lundegårdh, Henrik Gunnar.**

Klima und Boden in ihrer Wirkung auf das Pflanzenleben. Zweite, verb. Aufl. Jena. 1930. x, 480 p. illus. maps. diagrs. 24 cm.

**Maguire, Charles Joseph.**

Aerology; a ground school manual in aeronautical meteorology. 1st ed. New York. 1931. xii, 136 p. illus. maps (part fold.) diagrs. 23½ cm.

**Myrbach, Otto.**

Wanderers Wetterbuch. Einführung in das Verständnis der Wettervorgänge. Leipzig. n. d. 184 p. illus. 18 cm.

**Pardé, Maurice.**

Le régime du Mississippi. Grenoble. n. d. p. 583–693. figs. 25½ cm. (Rev. de géogr. Alpine, v. 18, fasc. 4, 1930.)

**Refsdal, Anfinn.**

Der feuchtblaile Niederschlag. Oslo. 1930. 71 p. figs. 31 cm. (Geofysiske publ. v. 5, no. 12.)

**Schaffers, V.**

Le paratonnerre dans les missions et aux colonies. [Bruxelles.] n. d. 32 p. figs. 17½ cm. (Extr.: Rev. miss. des Jésuites belges, Louvain.)

## SOLAR OBSERVATIONS

## SOLAR RADIATION MEASUREMENTS, FEBRUARY, 1931

By HERBERT H. KIMBALL

For a description of instruments employed and their exposures, the reader is referred to page 41 of this volume of the REVIEW.

Table I shows that solar radiation intensities averaged above the normal intensity for February at Washington, D. C., and below normal at Madison, Wis., and Lincoln, Nebr. Both these stations reported much dense local smoke during the month.

Table 2 shows an excess in the total solar radiation received on a horizontal surface directly from the sun and diffusely from the sky at Lincoln, Chicago, and New York, and a deficiency at all other stations, which was pronounced at Fresno and Pittsburgh.

Skylight polarization measurements were obtained at Washington on seven days, and give a mean percentage of 61, with a maximum of 64 on the 25th. These are close to the corresponding averages for Washington in February. No measurements were obtained at Madison during this month, as the ground was continuously covered with snow.

TABLE 1.—*Solar radiation intensities during February, 1931*  
[Gram-calories per minute per square centimeter of normal surface]

Washington, D. C.

Date	Sun's zenith distance									
	8 a.m.	78.7°	75.7°	70.7°	60.0°	0.0°	60.0°	70.7°	75.7°	78.7°
	75th mer. time	Air mass								
e.	5.0	4.0	3.0	2.0	1.0	2.0	3.0	4.0	5.0	e.
Feb. 3.	1.60	0.76	0.90	1.05		1.26	1.04	0.88	0.74	2.06
Feb. 4.	3.45					1.14	1.05	0.89	0.69	4.37
Feb. 5.	2.49	0.78	0.94	0.97	1.17		1.02	0.80	0.70	2.16
Feb. 10.	2.36	0.83	0.94	1.06	1.26					1.78
Feb. 11.	1.45	0.85	0.93	1.00	1.19		1.13	0.95	0.86	0.75
Feb. 24.	3.63					1.15				2.74
Feb. 25.	2.49	0.90	1.07	1.25	1.27		1.33	1.05	0.87	2.49
Feb. 26.	3.30	1.01	1.14	1.28						2.36
Feb. 27.	2.62	0.87	0.99	1.15	1.27		1.20	0.98	0.82	1.96
Means		0.83	0.97	1.09	1.24		1.20	1.02	0.85	0.72
Departures		+0.11	+0.16	+0.11	+0.07		+0.01	+0.04	+0.01	-0.04

<sup>1</sup> Extrapolated.

Lincoln, Nebr.												
Feb. 2.	3.81	0.55	0.56			1.37		1.35	1.23	1.10	0.96	5.16
Feb. 3.	4.37	0.95	1.09	1.24	1.38			1.35	1.20	1.09		4.37
Feb. 11.	3.63		0.85	0.99	1.26							4.17
Feb. 14.	1.32	0.85	0.99	1.18	1.31			1.33	1.15	0.96	0.77	1.68
Feb. 19.	3.45								1.22	1.03		3.63
Feb. 20.	3.15	0.60	0.74	0.88	1.08							3.81
Feb. 27.	5.36	0.67	0.78	1.25								4.57
Means		0.74	0.82	1.01	1.28			1.31	1.15	1.05	(0.86)	
Departures		-0.17	-0.20	-0.17	-0.09			-0.04	-0.01	+0.02	-0.06	